UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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Ref: ENF-L

BY FACSIMILE AND MAIL

July 26, 2001

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Dear Mr. Lund:

I am writing on behalf of my client to update you on the status of the administrative record for the United States Environmental Protection Agency's ("EPA") Libby Asbestos Superfund Site (the "Site"). The purpose of the letter is to respond to the concerns you expressed about the record in your comments dated September 28, 2000 and to inform you of EPA's plans for a supplement to the administrative record relating to response actions to be undertaken this summer. I am transmitting this letter, rather than my client, since we are now in litigation with your client concerning this Site. I request that I be copied on any future correspondence to my client and that any meetings that you or your client wish to have with EPA be arranged through me.

On June 9, 2000 you transmitted to EPA a letter criticizing EPA's decision to undertake response actions in Libby. Your letter indicated that W.R. Grace ("Grace") believes there is no imminent and substantial endangerment presented by the presence of amphibole asbestos in the Libby community. On July 26, 2000 EPA provided you with a full response to Grace's concerns. EPA explained the technical findings that led to its decision to take action and described the legal factors that supported such a decision.

Your two September 28th letters are framed as separate comments on the administrative record for EPA's response actions at the Screening and Export Plants during the summer of 2000, as approved in the May 23, 2000 Action Memorandum, and on the Unilateral Administrative Order issued to Grace during May of 2000. However, the comments reflected in both September 28th letters and in your June 9th letter are to a large degree duplicative. Consequently, I have categorized the issues for purposes of EPA's response. In addition, where EPA has already responded to an issue, I will direct you to that response rather than repeating it.

Grace contends that no imminent and substantial endangerment exists at the Site and that nothing in the administrative record supports such a finding. EPA has responded in detail to Grace in explaining that there may be an imminent and substantial endangerment at the Screening and Export Plants (see EPA's July 26, 2000 response). The administrative record for the Screening and Export Plants contains all the information necessary to support EPA's conclusion that there may be an imminent and substantial endangerment to public health. A brief summary outline of that information follows.

1) *Data showing presence of amphibole asbestos in soil, dust and air.*

The data provided in the administrative record for the Screening and Export Plants shows that EPA found amphibole asbestos in soils at the Screening and Export Plants as high as 8 to 12 percent. EPA's data also shows significant amphibole asbestos dust levels in the Parker's cars and home. Moreover, given the fact that the initial sampling was performed during winter months when there were snow-covered, wet, non-windy conditions and reduced outside human activity, EPA reasonably surmised that summer weather conditions and increased human activity would result in re-entrainment of respirable amphibole asbestos fibers into the air.

In addition, since the commencement of the removal actions at the former Screening and Export Plants, EPA has collected data which supports the premise that drier conditions and increased human activity will result in higher levels of airborne amphibole asbestos. Data collected from personal air monitors worn by individuals sweeping indoor areas at the Export Plant showed levels exceeding 0.1 f/cc, the OSHA permissible exposure limit ("PEL"). Quite contrary to Grace assertions, EPA has found elevated levels of amphibole asbestos in the ambient air within the cleanup perimeters of both the Screening and Export Plants, as well as at the mine. EPA's Phase II Investigation results also show such high levels of amphibole asbestos in air when there is human activity, even for something as simple as vacuuming. This data is available in the supplement to the administrative record supporting this summer's response activities at the Site. The data indicates that while remote ambient levels may remain low during human activity, high levels of amphibole asbestos may be measured in air by personal monitors closer to the activity.

2) *Information showing close proximity of people to areas containing asbestos.*

The May 23, 2000 Action Memorandum, a key element of the original administrative record, contains information showing that people are in close proximity to the areas containing amphibole asbestos. The Action Memorandum details the fact that Raintree Nursery customers visited the Screening Plant, that nursery workers spent their entire work-week there and that the Parkers, and on some occasions, the Parkers' extended family, lived on the Screening Plant property. The Action Memorandum also describes the use of the Export Plant by Millwork West workers and customers and the proximity of the adjacent residential landowners. All of these individuals partake in activities which may generate respirable airborne asbestos fibers.

3) *Studies showing that exposure to Libby vermiculite causes lung disease.*

The administrative record supporting the May 23, 2000 Action Memorandum contains studies indicating an association between asbestos-related lung disease and exposure to Libby vermiculite. These studies are relevant and instructive in their description of the types of activities and levels of exposure which are associated with such lung disease. In addition, even though the studies concern occupational activities, EPA believes that the type of activity and level of exposure are, in many ways, analogous to what is found in Libby today. For example, the Amandus studies at Libby and Lockey's study at Marysville, Ohio included individuals who moved Libby concentrate from one area to another, as Libby homeowners may do when moving concentrate left in their backyards from one location to another. The studies at Libby showed that a significant percentage of these workers had asbestos-associated lung abnormalities from working with the Libby vermiculite. While the duration of the exposure may be different, one cannot discount the risk to the homeowner in Libby without first understanding the threshold of exposure which may cause lung disease.

The Lockey study in Marysville, Ohio is most illustrative when analyzed in the context of the findings of Amandus in his studies of Libby workers. While the Libby workers showed the development of fibrogenic disease at very high levels of exposure, the Marysville case shows the development of such disease from the same types of fibers at much lower levels of exposure. Thus, Marysville confirms that the threshold of exposure causing lung disease may be low. It is interesting to note that the levels of amphibole asbestos in solid media to which Marysville workers were exposed is the same as or lower than that to which those at the Screening and Export Plants were exposed.

As previously discussed, EPA has continued to investigate exposure levels at Libby. Both the sweeping scenario and Phase II investigations reveal that Libby residents may currently be exposed to levels of airborne amphibole asbestos fibers which are higher than those classified as the medium exposure group in the Marysville study, which showed a positive association between exposure and asbestos-related lung abnormalities.

The Jorgensen case illustrates the association of a non-occupational exposure to vermiculite contaminated with amphibole asbestos and lung disease. According to the documents that EPA has reviewed, Mr. Jorgensen's only exposure to amphibole asbestos was by spending a short period of his childhood near the Minnesota exfoliation plant and playing, on occasion, on the stoner rock located outside the plant. Mr. Jorgensen died in his early forties from lung cancer caused by amphibole asbestos. Additionally, his autopsy results revealed fibrogenic lung disease and the presence of high concentrations of amphibole fibers. Mr. Jorgensen's contact with amphibole asbestos was not significantly different than that potentially experienced by some residents of Libby today.

The administrative record also contains numerous studies showing an association between exposure to asbestos and lung disease. While these studies are not specific to Libby or amphibole

asbestos, they suggest that continued exposure to asbestos may cause an endangerment to human health. In addition, studies indicate that where asbestos is present in solid media, it can frequently become airborne and available to the inhalation pathway. Thus, they support EPA's determination that an endangerment may exist in Libby today.

4) *Medical and toxicological opinions that the exposure pathway in Libby is complete.*

As EPA made its initial decision to pursue response actions at the Screening and Export Plants in Libby, the administrative record contained opinions from EPA's toxicologist, from the Agency for Toxic Substances and Disease Registry ("ATSDR") and the Public Health Service ("PHS") indicating that the conditions present at these locations may cause an endangerment. While ATSDR and PHS may have looked to past exposures for background on the relationship between exposure and disease, their concern was expressed specifically with regard to the potential for exposure to amphibole asbestos present in Libby today. Thus, both agencies looked at the presence of hazardous substances, the presence of receptors, the presence of exposure pathways and the association of amphibole asbestos exposure with lung disease in determining that EPA should take action.

The May 17, 2000 memorandum of Dr. Weis, EPA's toxicologist, fully evaluated the data available to EPA, evaluated current and potential future pathways for exposure, and estimated potential risk. After evaluation of studies on the association of non-malignant asbestos-related disease to asbestos in non-occupational settings, Dr. Weis concluded that potential exposure to the levels of amphibole asbestos in soils at the Screening and Export Plants could cause adverse health impacts. Dr. Weis also estimated the risk for malignant asbestos-related disease by running EPA's peer-reviewed IRIS model. He arrived at a carcinogenic risk of $9x10^{-5}$. As a matter of policy, EPA does not automatically take response actions at sites with carcinogenic risks between $1x10^{-4}$ and $1x10^{-6}$, but applies other site-specific factors in making a risk management decision on the necessity for response actions. EPA, based on information in the record, deduced that the sampling performed in passive conditions would find the lowest possible exposures, and that any human activity would cause higher levels of exposure. EPA considered this, as well as such factors as the minute .00001 difference between $9x10^{-5}$ and $1x10^{-4}$, the unhindered access to the amphibole asbestos, and the strong association between amphibole asbestos exposure and lung disease, in determining that a response action was appropriate at the Screening and Export Plants. Consequently, the administrative record shows that EPA's determination to take response actions at the Screening and Export Plants was in no manner inconsistent with the National Contingency Plan ("NCP"), 40 C.F.R. § 300 et seq., and was neither arbitrary nor capricious.

Grace has also raised several contentions not directly related to the sufficiency of the administrative record. Each contention is responded to separately below.

A) *Ambient air data shows there is no problem in Libby.*

Grace's contention that ambient air levels in Libby prove that there is no endangerment indicates a fundamental misunderstanding of the data and the science of asbestos exposure. First, as indicated previously, amphibole asbestos was found in ambient air samples taken at the Screening and Export Plants. Second, the level of exposure appears to be directly related to the amount of activity which disturbs materials or objects containing the asbestos. EPA concluded this prior to its first removals and has proven it with its sweeping scenarios and Phase II investigation. Thus, one would expect to find elevated asbestos levels in an area immediately around the activity, but not necessarily in a more remote location sampled by an ambient air monitor. EPA's investigations validate this concept, as do Grace's own internal documents. In a memorandum from R.H. Locke to several Grace executives on "Controlled Drop Air Sampling", dated August 5, 1976, there is a general acknowledgment that asbestos concentrations reflected by monitors in close proximity to activity will not also be reflected in monitors more remote to the activity. This document is available in the supplement to the administrative record. Thus, activity in areas containing amphibole asbestos may lead to endangerment, despite the fact that an ambient air monitor may not reflect such exposure.

B) *EPA didn't spend enough time studying the problem.*

Grace argues that EPA should spend more time studying the problem before deciding to take response actions. EPA does not believe there is a direct correlation between the amount of time spent in making a decision and the quality of that decision. Rather, the quality of the decision is based on the depth of understanding of the problem and the careful evaluation of potential solutions. EPA does not have to redo the same work performed at other sites such as Diamond XX, but should instead be efficient by learning from those experiences and, where appropriate, applying the lessons learned to the situation at hand. EPA has done that in this case. EPA must also consider the need for urgent action to protect public health in assessing the amount of time it has to make response action decisions. EPA determined that waiting another year to take actions at the Screening and Export Plants would unnecessarily expose some Libby residents to amphibole asbestos, thereby increasing the potential that they would develop lung disease. The information collected by EPA and the evaluation performed were sufficient to make appropriate decisions pursuant to the NCP.

C) *Just because there is asbestos in soil, doesn't mean it will get into the air.*

EPA's data in the administrative record and Grace's own internal documents show this contention to be incorrect. Wherever EPA measured high concentrations of amphibole asbestos in soil at the Screening and Export Plants, EPA also found high levels in dust on personal items, furniture, automobiles and buildings. It is difficult to imagine how an automobile's or buildings'

surface could become contaminated with asbestos dust other than through deposition from such asbestos entrained in air. EPA's Phase II investigation shows the correlation between activity with solid media and increased airborne levels of asbestos.

As you are aware, EPA has found vermiculite concentrate in Libby soil. In an April 8, 1976 memorandum to Grace executives, Julie Yang states that "tremolite bundles picked out from Libby #2 [a vermiculite concentrate] ...broke down easily to fine fibrils when degraded, which looked extremely similar to those found on the filter or floating in the air in the Libby operation...." Grace maintains that its concentrate contained less than 5% asbestos and its Zonolite Attic Insulation less than 1% asbestos. When Grace ran simulations of Zonolite Attic Insulation installation, it found extremely high levels of asbestos in air. (This is reflected in a February 14, 1979 memorandum from F.W. Eaton to M. DiBenedictis and is included in the supplement to the administrative record, along with the Yang memorandum discussed above.) In a March 29, 1982 memorandum from Grace employee E.S. Wood to R. M. Vining, Grace indicates that the simple transfer of concentrate from one barrel to another results in an airborne exposure concentration as high as 9.04 f/cc, which is 90 times the current occupational standard. Thus, where EPA is finding levels of asbestos in soil as high as 12%, it seems likely that activity that disturbs soil will very likely generate high levels of airborne asbestos fibers. Every aspect of EPA's work and some of Grace's own work show that activity with solid media containing amphibole asbestos leads to the entrainment of asbestos fibers in air.

D) *Failure to follow S&QAPP invalidates EPA's removal.*

Grace argues that language in EPA's January 4, 2000 Sampling and Quality Assurance Project Plan ("S&QAPP"), Revision 1, limits the scope of EPA's ability to respond to the release of amphibole asbestos. The S&QAPP is EPA's site-specific plan for sampling and quality assurance. It is meant to set out parameters or objectives for the type and quality of data to be collected. It is was not intended to supplant the statute and regulations by which EPA makes response action decisions. There is no basis in law to argue that it does. EPA's decision criteria are found in the NCP at 40 C.F.R. § 300.415. In addition, Grace should understand that EPA's response action decision was not only based on carcinogenic risk, but on the risk associated with non-malignant asbestos-related disease as well.

E) *EPA must have a risk assessment.*

EPA has previously responded to this contention in its July 26, 2000 response to Grace. EPA reiterates, however, that even though a formal quantitative risk assessment was not produced, as one is not required by law or policy, EPA did perform risk assessment activities to assist in evaluating the need for response actions. Grace acknowledges the existence of this work in its many comments about the work of Dr. Weis, ATSDR and PHS.

F) *NCP response criteria insufficient as basis for determining need for response action.*

The NCP embodies the rules by which EPA operates the Superfund program. Section 300.415 prescribes how and when EPA shall take removal actions. Section 300.415(b)(1) states that "at any release... where the lead agency makes the determination, based on the factors in paragraph (b)(2) of this section, that there is a threat to public health..., the lead agency may take any appropriate removal action to abate, prevent, minimize, stabilize, mitigate, or eliminate the release or threat of release." In its July 26th response to Grace, EPA explained which of the Section 300.415(b)(2) factors were present at the Screening and Export Plants. EPA has performed the investigation and analysis necessary to understand which factors apply, and has concluded that there is a threat to public health. Consequently, EPA determined response actions to be necessary. The regulations require no more.

G) *The people who are sick now are not sick from a current exposure.*

EPA acknowledges that there is a latency period between exposure to amphibole asbestos and the onset of asbestos-related lung disease. Thus, people who currently have asbestos-related lung disease clearly had an asbestos exposure in the past. However, this in no way suggests that the people who are sick today are not being further exposed today, and as a result, will be sicker tomorrow. Nor does it suggest that people who show no signs of lung disease today have not been exposed in the past, are not being exposed today, or will not develop lung disease in the future.

The examination of asbestos-related lung disease by EPA, ATSDR, and PHS is intended to advance the government's understanding of the association between amphibole asbestos exposure and such disease. The findings of such work are not intended to be used as the sole determinant of whether such an exposure continues today, but one of many pieces of information the agency has relied upon in coming to that conclusion.

Grace has periodically argued that a latency period dictates that the exposure to amphibole asbestos must have been in the past, because people are sick today. Consequently, Grace argues that no action is necessary today to prevent further exposures. Grace's argument is disingenuous. The law does not require EPA to find dead or diseased people to take action to prevent a threat to public health when there is a release or threat of release of a hazardous substance to the environment. In fact, EPA has made most of its response action decisions at Superfund sites without finding such drastic consequences. Thus, where there is disease associated with exposure to the hazardous substance in question, it is even more important for EPA to be conservative in evaluating current exposure.

H) *There are better alternatives than soil removal.*

EPA considered several alternatives in determining the most appropriate response action for the Screening and Export Plants. These alternatives included: 1) the use of institutional controls; 2) the use of a soil cap over contaminated soils with lesser restrictions and 3) the removal of the asbestos-contaminated soils. EPA determined that the long-term consequences of the first two alternatives would not be appropriate in the context of the Libby community. Both alternatives would severely limit options for use of the very little area that comprises Libby. In addition, the efficacy of the alternatives is doubtful given the breadth of the restriction that would be necessary and the nature of the activities of Libby citizens, e.g., gardening, landscaping, home construction, business development, etc. Such restrictions, whether with or without a soil cap, would so curtail normal activities that non-compliance would be significant. Thus, EPA determined that the third alternative was the most protective of public health.

Grace argues that EPA's decision to remove the asbestos-contaminated soil sets a precedent for requiring the removal of naturally-occurring asbestos all over the country. However, quite to the contrary, EPA did not remove naturally-occurring asbestos from the Screening Plant and has not required Grace to do so.

I) *Grace should not have to make third parties whole for damage done during their cleanup, or provide temporary relocation.*

Grace is performing work under unilateral order and must, therefore, perform the same work that would be performed by EPA. The federal government is required by the Constitution of the United States to compensate those parties to whom it causes damage during government activities, unless those parties have some liability for the government activity. The work being performed by Grace has damaged buildings and equipment, and may ultimately result in the loss of all or most of the real and personal property involved. As Grace apparently did not inform the landowner or the tenant of the asbestos content of the soils on the property prior to its transfer of the property, or the consequences of this contamination, these parties may have a valid defense to liability under CERCLA. In addition, EPA is required to adhere to the Uniform Relocation Act in performing its response actions. Therefore, Grace must also implement these requirements when it is performing work pursuant to an EPA order. Thus, Grace is required by law to make third parties whole for cleanup-related damage and to provide temporary relocation.

J) *EPA used wrong methodologies.*

EPA has only used standard and approved methodologies in collecting and analyzing data at Libby. For data collection, EPA has used PLM and TEM for asbestos identification and quantification. These techniques are widely used throughout the asbestos industry and by government. In addition, EPA has used SEM and infrared spectroscopy as screening tools, also widely used techniques in the asbestos field. (Indeed, Grace documents show that Grace also relies on SEM analysis.) EPA has used ISO Method 10312 for counting asbestos fibers identified

by TEM analysis. This method is approved both by the International Science Organization and the American Society for Testing and Materials. The NCP does not dictate which methods EPA must use in a Superfund cleanup to collect or analyze data. EPA chooses to use those approved methods which are most likely to accurately characterize the release or threatened release of a hazardous substance. Such was the case at Libby.

It is interesting that Grace places such an emphasis on its disagreement with EPA's choice of standard and approved methodologies, when it has apparently chosen to develop a non-standard, unapproved methodology for reporting the asbestos content of its products. Grace internal documents indicate that Grace had chosen to use a "discriminatory" counting method developed by Julie Yang. This "discriminatory" approach typically only reports 50% of the fibers found through normal PCM counting techniques. EPA does not have documentation indicating whether Grace continues to use this counting procedure.

K) *EPA's action at Libby should have been a non-time critical removal action or remedial action.*

Grace argues that several factors dictate that EPA's action at Libby be characterized as something other than a time critical removal action. Initially, Grace suggests that because EPA had notice of problems in Libby twenty years ago, EPA cannot now argue that it had less than a six-month planning period, the criterion for a time critical removal action. Interestingly, when EPA first became involved in Libby in 1978, there was no Superfund program. Investigations were not performed at Libby to determine appropriate remediation, but rather to determine the nature and consequence of amphibole asbestos exposures, as first analyzed at Marysville, Ohio. In 1993, EPA was notified by a private citizen of perceived threats from asbestos at the Screening Plant. The State of Montana sent an employee to inspect the site and notified EPA that there was not a problem. EPA's Superfund program first became aware of the problem in Libby in late November of 1999. EPA performed investigations and documented its decision to take response actions by late May, 2000, six months later. Nevertheless, no matter how long EPA had notice, the passage of time does not render an urgent situation any less urgent.

Grace also argues that the nature of the response action, permanent removal of asbestos-contaminated soils, dictates a remedial action. Section 300.415(e) is instructive on this issue when it states that "excavation, consolidation, or removal of highly contaminated soils from ... areas where such actions will reduce the spread of, or direct contact with, the contamination" is an appropriate removal action. While the permanency of an action is a hallmark of a remedial action, it was never intended to be a limit on the scope of a removal action. To argue the contrary would be absurd, as the removal of a leaking hazardous waste drum from a populated area is permanent, but is a classic emergency response action.

Grace also argues that the analysis of risk associated with asbestos exposure at Libby requires lengthy and complex assessment activities. This contention has already been responded to earlier in this letter.

L) *EPA should not respond to any asbestos fiber release which is less than the OSHA PEL.*

The OSHA PEL is not an ARAR, but rather a requirement that EPA must comply with while performing its work. It is not a ceiling under which EPA's cleanup thresholds must remain, but a floor above which they must be set. OSHA itself has indicated that the 0.1f/cc limitation would result in an $3.4x10^{-3}$ cancer risk level in occupational settings. (See 59 FR 40964, 40978-82, August 10, 1994.) This is thirty-four times higher than EPA's baseline of $1x10^{-4}$ for cancer risk. In addition, using an occupational standard in a residential setting would not be protective. Residents may have exposure for periods of time much longer than eight hours a day, five days a week. In addition, whereas workers are trained to understand and work with this type of exposure and provided with appropriate protective gear to reduce such exposure, residents are not. Thus, the OSHA PEL is not an appropriate standard for ensuring protection of the health of Libby residents.

M) *EPA has not provided for enough public input.*

EPA disagrees with this contention. EPA has held two official public meetings, has formed a Community Advisory Group which meets every other week to give input to EPA, has issued in three newspapers and on a radio station weekly answers to questions and concerns raised by the public, has a continuous cable TV announcement of community meetings, has held a three-day community conference and has continually invited input throughout EPA's presence in Libby. In addition, EPA maintains an information center and office in Libby which is greatly utilized by the community to give input and obtain information. Grace has taken advantage of these opportunities by stating its opinion at public meetings, during sessions of the Community Advisory Group and by sending EPA comments on the progress and validity of the response actions.

As of September 28, 2000, Grace submitted many documents for inclusion in the administrative record. Pursuant to 40 C.F.R. § 300.825, EPA will place all of these documents into the administrative record, despite the fact that some were created after the date on which the response action decision was made and some have no relevance to the response action decision. EPA's On-Scene Coordinator has reviewed each document that was submitted. A brief response to each document is provided below.

- Analysis of December 1999 Indoor Air Samples From The Export And Screening Plants, Libby Montana
- Analysis of January 2000 Indoor And Outdoor Air Samples From Libby Montana
- Analysis of Summer 2000 Air Samples From The Export Plant, Libby Montana

Grace provides these documents to argue that EPA's data numbers are inaccurate. However, this contention fails to recognize that asbestos fibers are counted in a set of grids randomly selected for each examination. Unless Mr. Lee had the opportunity to review the exact same grids, it would be impossible for him

to replicate EPA's findings, especially since the random selection picks approximately ten grids out of 37,000. The fact that Mr. Lee does not find fibers in his grids in no way invalidates EPA's counting of fibers. Mr. Lee's work provides no information that would suggest that false positives are possible.

- California Air Resources Board - Determination of Asbestos Content of Serpentine Aggregate

  This document describes the use of CARB Method 435, a method for sampling and analyzing serpentine asbestos which uses PLM. EPA is currently evaluating Method 435 as part of its performance evaluation study. This method is approved by ASTM, as is Method 10312 for TEM, even though it is different than the more commonly used NIOSH 9002 for PLM. When EPA completes its performance evaluation study, it will be in a better position to comment on this methodology.

- California Air Resources Board - Advisory on Asbestos-Containing Materials Used on Playgrounds and Other Surfaces

  This advisory indicates that where bulk media sampling reveals asbestos fibers using Method 435, a response action is appropriate. It indicates that there is a range of options for such a response action, including those considered by EPA at the Screening and Export Plants. EPA agrees that this is a reasonable approach.

- California Air Resources Board - Naturally-Occurring Asbestos, General Information

  This document provides a general description of asbestos in the environment and in road surface products. It indicates that there is a control measure which prohibits the use of rock containing more than 5% asbestos in road surfaces. This does not reflect current California law. EPA directs your attention to CARB's Final Regulation Order - Asbestos Airborne Toxic Control Measure for Surfacing Applications. This regulation reduces the 5% to 0.25% asbestos. Given the relatively high levels of asbestos found at the Screening and Export Plants, this document would indicate a significant problem. (This document is included in the supplement to the administrative record.)

- California Air Resources Board - Fact Sheet #1, Health Information on Asbestos

  This document describes the potential adverse health outcomes associated with exposure to asbestos. The document indicates that the risk of disease depends on the intensity and duration of the exposure. EPA agrees with this conclusion. The document does not indicate at what level of intensity or duration the risk of disease becomes unacceptable.

- California Air Resources Board - Fact Sheet #2, School Advisory for Naturally-Occurring Asbestos

  This document provides basically the same information as the CARB document on Advisory on Asbestos-Containing Materials Used on Playgrounds and Other Surfaces. EPA's response is therefore the same.

- California Air Resources Board - Fact Sheet #3, Ways to Control Naturally-Occurring Asbestos Dust

  This document describes appropriate controls to reduce asbestos dust during construction and on roadways which have naturally-occurring asbestos. It provides temporary solutions for temporary problems at construction sites, and provides the best solution possible for roadways where no other authority can provide more. EPA does not interpret this document to indicate that where there is the authority to do more, a more permanent remedy shouldn't be considered, as it was by CARB for playgrounds. I reiterate that EPA has not removed, or required Grace to remove, any naturally-occurring asbestos.

- California Air Resources Board - Fact Sheet #4, Naturally-Occurring Asbestos Around Your Home

  Once again, this document concerns naturally-occurring asbestos, which EPA is not addressing other than with public information about exposure. The document provides common sense suggestions for reducing exposure. EPA concurs with the suggestions.

- California Air Resources Board - Fact Sheet #5, Monitoring for Asbestos

  This document describes various methods for monitoring for asbestos, including Method 435, TEM and PCM. It indicates that these methods can be used, not that they have to be used. As previously described to Grace, and acknowledged in Grace's own documents, PCM is not an ideal measurement tool as it tends to under count fibers discovered by other techniques and to over-count fibers in areas containing other types of dust.

- California Air Resources Board - Findings and Recommendations on Naturally-Occurring Asbestos to El Dorado County

  This document describes the discovery of unacceptable levels of asbestos in county roads and unpaved driveways. It recommends better risk assessment methods and indicates that any reduction in asbestos content in roads will reduce risk. EPA agrees with these two conclusions.

- California Air Resources Board - Asbestos Air Monitoring in El Dorado County

  This document indicates that the best monitoring results are those collected during summer months and only when conditions are dry. This supports EPA's contentions about the likely low bias of the sampling performed at the Screening and Export Plants during the winter of 1999-2000. It indicates that where there is activity, there are higher levels of asbestos. The document provides some risk levels associated with long-term exposure, but does not indicate any minimum threshold below which there is no risk of lung disease. EPA concurs that activity that disturbs asbestos contaminated materials increases the potential for exposure. EPA also agrees that the longer the duration of the exposure, the greater the chance of developing lung disease.

- California Air Resources Board - Measured Ambient Asbestos Concentrations in Placer and Nevada Counties, California

  This document describes ambient air levels of asbestos in California. EPA does not understand what bearing this has on the Libby case. It is interesting to note that in areas where one would expect greater activity, greater levels of asbestos fibers are found.

- California Air Resources Board - Naturally-Occurring Asbestos in El Dorado Canyon

  Like other documents which Grace has submitted, this document provides a general description of asbestos and potential adverse health impacts associated with exposure to asbestos. It, like other submitted documents, indicates control methods for naturally-occurring asbestos to reduce exposure. Once again, EPA reiterates that it is not removing, nor requiring Grace to remove, naturally-occurring asbestos. This document once again mentions the 5% limit on asbestos content in road material, which has been changed to 0.25%.

- California Air Resources Board - Measured Ambient Asbestos Concentrations in El Dorado County, California
- California Air Resources Board - Measured Ambient Asbestos Concentrations in El Dorado County, California
- California Resources Agency - Asbestos Map of Western El Dorado County
- Map of California Showing Principal Asbestos Deposits

  EPA does not understand the purpose of this data, as your letter does not indicate how it would affect EPA's decision and nothing is self-evident from reading it.

- Ambient Air Monitors - Structure Counts

  This document appears to reflect fiber counts at various facilities around the Libby area. While these counts show no asbestos at various locations and on various days, no indication is given of whether there was activity at the time of sampling. As indicated earlier, it is important to know not only the level of activity, but whether the monitor used to collect data was a personal monitor or a remote ambient monitor.

- Weather Trends in Libby

  Grace submits weather summaries for Libby for 1999 and 2000. Grace submits this data to argue that conditions were dry, thus EPA should have found elevated levels of asbestos in ambient monitors if, in fact, there is an asbestos problem. Unfortunately, Grace provides no information about wind, which might cause entrainment of asbestos dust, and more importantly, about human activity which EPA has proved can entrain asbestos dust.

- Talc, Graphite, Vermiculite and Asbestos in Montana
- Naturally Occurring Asbestos in Fairfax County

  These general descriptions of naturally-occurring asbestos in Montana and Fairfax County, Virginia neither add nor detract to EPA's response action decision, as EPA is not addressing naturally-occurring asbestos.

- Fairfax County Health Department, Directive 1, Standards of Performance For Actinolite/Tremolite Soil Sources

  This document sets standards for reducing asbestos fiber entrainment into the atmosphere during construction, including mitigation techniques to keep fiber levels below .02f/cc. In addition, the document calls for 6" of clean fill on top of asbestos-contaminated soils. While EPA agrees with precautions to reduce the release of asbestos fibers to the atmosphere, EPA reviewed the option of capping in Libby and determined it to be unprotective. Response action decisions are site-specific, thus a choice of remedy in one location and pursuant to one set of circumstances may not be appropriate for another location with other circumstances.

- Office of Pollution Prevention and Toxics, Fact Sheet/Q&A: Asbestos-Containing Vermiculite

  This EPA-issued document indicates that risks to Libby residents are likely a result of "past environmental releases from mining, milling and transport of

vermiculite ore." EPA does believe that past releases of asbestos and asbestos-containing vermiculite into the Libby community are contributing to the current exposures of the residents of Libby to asbestos.

- June 16, 1987 letter from EPA to Frederick Eaton, W.R. Grace

  This document is a questionnaire sent by EPA to Grace to obtain information on the need for emission standards for hazardous air pollutants. It provides no information relevant to EPA's response action decision. I have discussed EPA's past knowledge of Libby asbestos problems earlier in this letter.

- Palabora Vermiculite

  This document indicates that where a mine is producing vermiculite with low asbestos levels, one finds low health effects. This document does not suggest that where there are high asbestos levels, one wouldn't find significant health effects. The document does not change EPA's analysis of the Libby situation.

- Letter from Grace to EPA Alleging Unethical Behavior by EPA Attorney

  This letter has no relevance to EPA's response action decision. Nonetheless, I enclose with this letter EPA's response to Grace from Steve Herman, Assistant Administrator for the Office of Enforcement and Compliance Assurance.

- Grace Announces Sweeping Health Care Program for Libby, Montana, Residents
- Grace Completes Medical Expense Program for Libby Residents Diagnosed with Asbestos-Related Diseases

  While EPA appreciates Grace's efforts to assist those who are ill from exposure to Libby asbestos, the document is not relevant to the issue of whether there continues to be an exposure and the appropriateness of the response action decision.

- EPA: Evidence shows Libby Safe for residents

  This newspaper article indicates that EPA has found no evidence in ambient air monitors in downtown Libby of airborne asbestos. Once again, EPA does not believe that ambient air monitors are the best source of information for exposures created by discreet human activity. EPA's concern is not with an individual whose only exposure is to walk through downtown, but rather with individuals whose daily lives lead them to partake in activities which disturb

asbestos in or on solid media. For example, EPA is concerned with the individual who is gardening in soil mixed with vermiculite.

- Grace - Commitment to Care

  This document purports to describe Grace efforts to protect worker health and safety, as well as the environment. This document is not relevant to the issue of whether there continues to be an exposure and the appropriateness of the response action decision.

- Grace in Libby

  This document purports to list Grace's efforts to work with authorities in addressing problems in Libby, Grace's efforts at establishing a medical care program and facts about Zonolite insulation. While EPA may debate the extent of Grace's cooperation with investigation and cleanup activities in Libby, it would not be relevant to the response action decision, and therefore is not really appropriate for the administrative record for the Screening and Export Plants. EPA does, however, find information presented by Grace on the Zonolite Insulation very relevant. The fact that Grace's own tests showed that "asbestos fibers in the attic space during installation were at a level well below **what was then** considered a permissible **lifetime occupational** exposure" may require further investigation for future activities of EPA.

- W.R. Grace & Co., Vermiculite Operations Fact Book

  It is not clear what the intended purpose for this general description of Libby asbestos issues is. Nonetheless, EPA will include it in the administrative record.

- Libby Asbestos Time Line

  Once again, EPA does not understand, and Grace provides no rationale for, the relevance of this time line is to EPA's response action decision.

- Grace Letter to Linda Rosenstock, NIOSH
- Grace Letter to June Gibbs Brown, IG, HHS

  These letters are complaints about a letter transmitted by Dr. Sloan concerning Zonolite Insulation. While the letters indicate that Grace disagrees with Dr. Sloan's conclusions, they do not give the reason for Grace's disagreement. Thus, EPA cannot evaluate what affect they might have had on EPA's response action decision.

- State Board of Health, A Report of a Partial Industrial Hygiene Study
- Letter from Lovick, Grace to Wake, Montana State Dept. of Health
- Grace Letter to EPA responding to TSCA 8(e) request.

These letters all indicate that Grace made efforts during its operation of the mine and mill to reduce asbestos emissions. EPA has no reason to dispute such efforts. However, the fact that efforts were made, and hopefully reductions achieved, does not address whether there continues to be asbestos exposure in Libby today, nor the appropriateness of EPA's response action decision for the Screening and Export Plants.

EPA has located the documents that Grace identified as missing from the administrative record and ensured that they are now available. In addition, this letter, together with its supporting documentation, will be placed in the administrative record for the Screening and Export Plants pursuant to 40 C.F.R. § 300.820. EPA expects that the supplement to the administrative record for this summer's response actions will be available for public review around the end of August. If you have any questions, please feel free to contact me.

Sincerely,

Matt Cohn

Matthew Cohn
Legal Enforcement Program

Enclosure

cc: Paul Peronard